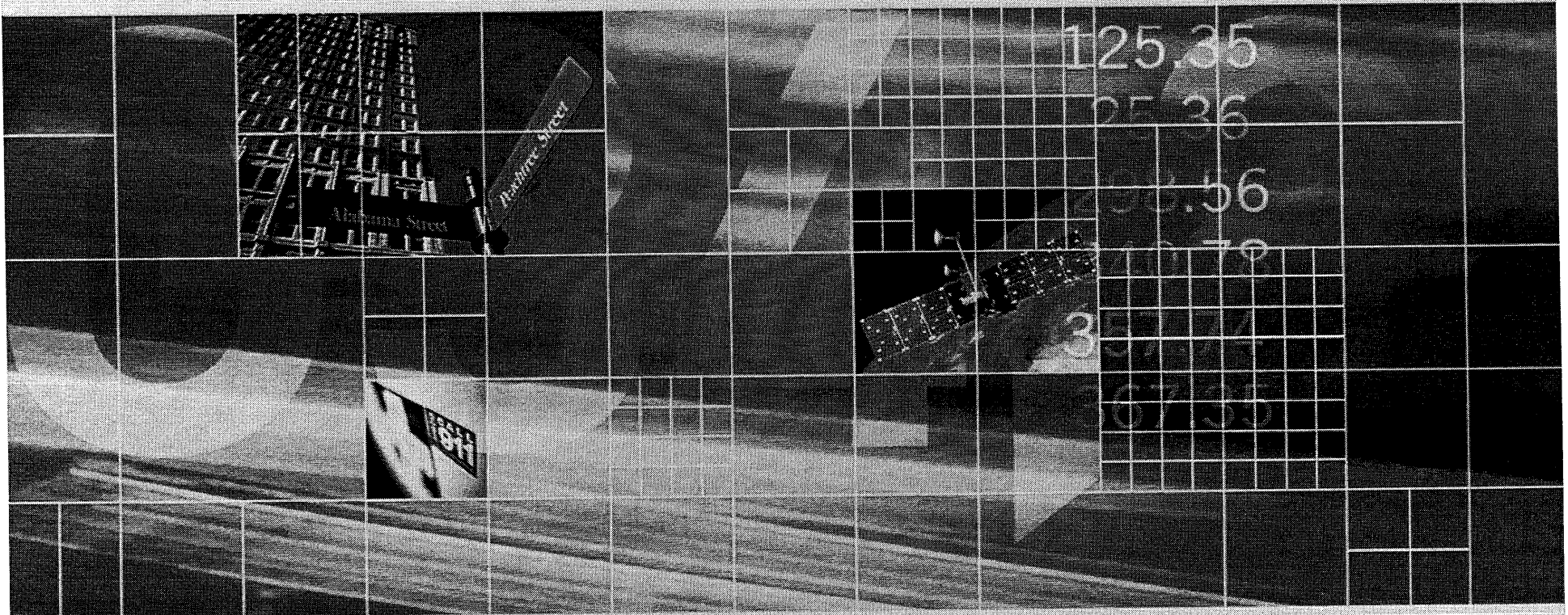# VoIP Update to FCC – March 29, 2005

## Stephen Meer – CTO & Cofounder, Intrado Inc.

VoIP E9-1-1

⤤ Intrado History With 9-1-1

⤤ Challenges for VoIP E9-1-1

⤤ Solutions for VoIP E9-1-1

   – VoIP Solution Architecture

⤤ Solutions for VoIP E9-1-1: Deployment Status

⤤ Policy Requirements

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Intrado History With 9-1-1

- Systems and data mgt to deliver 9-1-1
- Support the core of 9-1-1
  - Verizon, SBC, BellSouth, Qwest with 206 million telephone records
  - 37 competitive carriers with 9.8 million records
  - 50 wireless carriers with 91 million records
  - All major VoIP providers
- Unparalleled knowledge of public safety technology
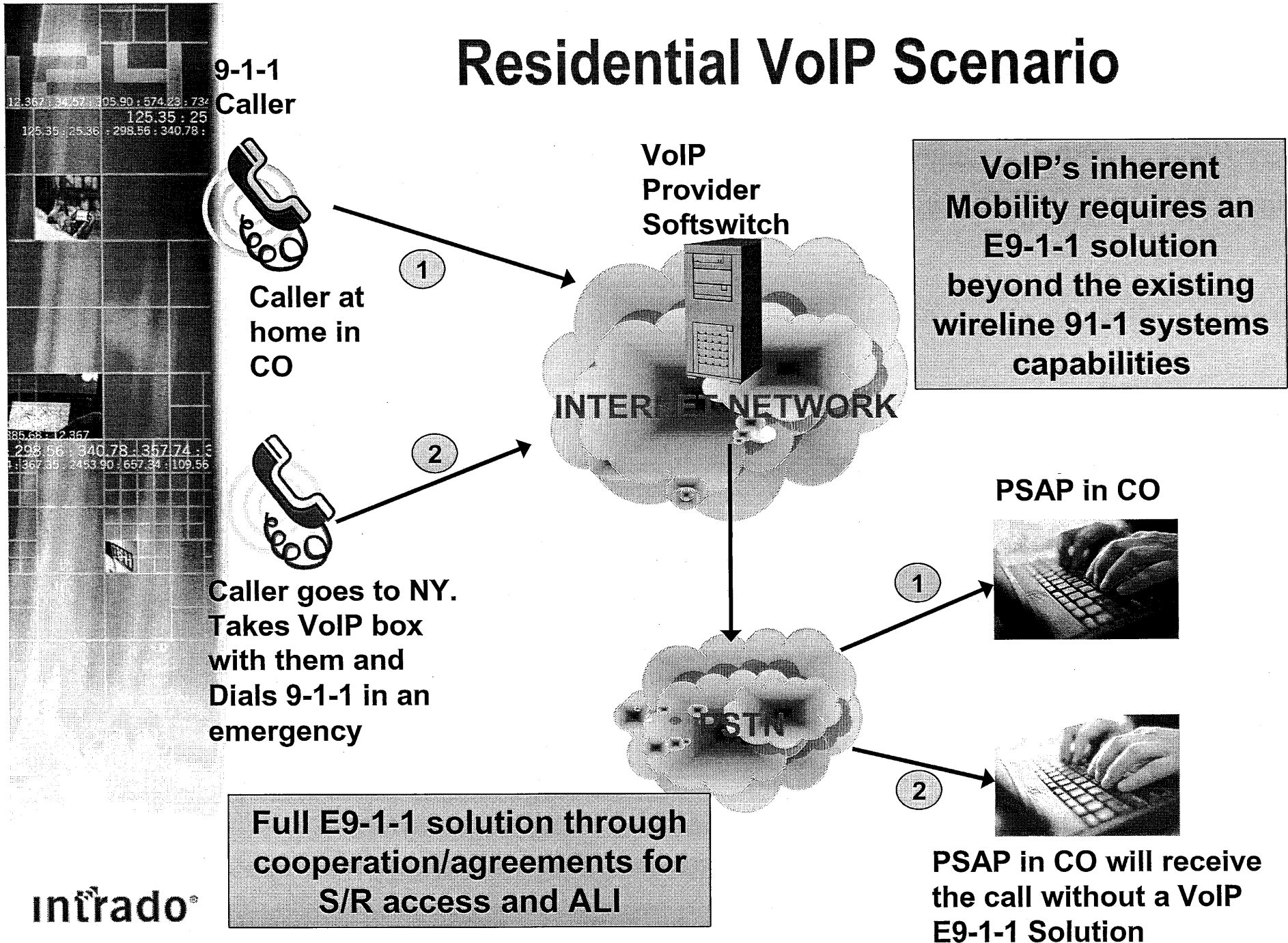 - Understand who, what, how and why
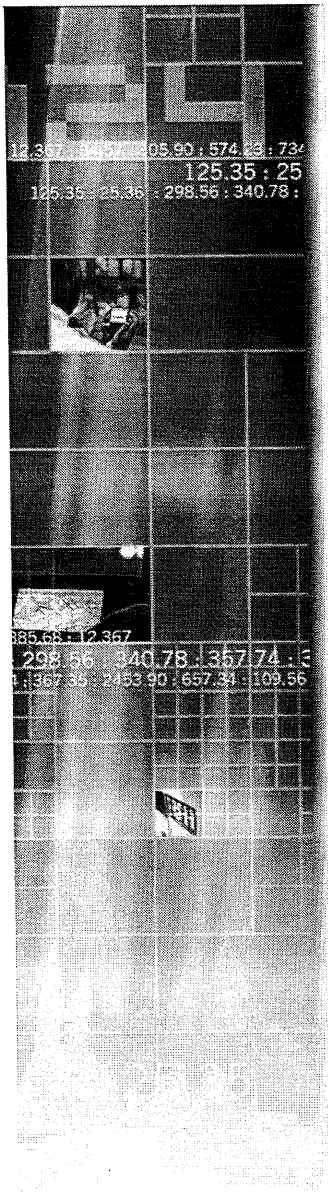
Challenges for VoIP E9-1-1

↘ Must solve "The Big Four" for Consumer and Business Enterprise VoIP services

- Where is the caller?

- Which PSAP should receive the call?

- How to get the call to the PSAP?

- What information to deliver with the call?
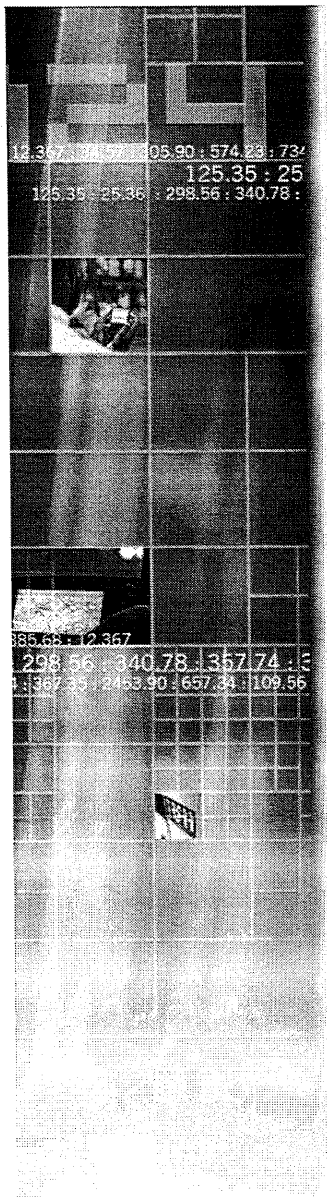
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VoIP 9-1-1 Requires a Different Approach

- Technology exists to enable full E9-1-1 for VoIP subscribers regardless of movement and TN assignment

- Intrado has launched the V9-1-1 service and is currently working with partners and the industry to enable access to critical network elements required to deliver E9-1-1 for VoIP

- VoIP users deserve and expect access to E9-1-1 services equal to that of traditional wireline services

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Residential VoIP Scenario

9-1-1 Caller

Caller at home in CO

VoIP Provider Softswitch

1

2

INTERNET NETWORK

VoIP's inherent Mobility requires an E9-1-1 solution beyond the existing wireline 91-1 systems capabilities

Caller goes to NY. Takes VoIP box with them and Dials 9-1-1 in an emergency

PSAP in CO

1

PSTN

2

Full E9-1-1 solution through cooperation/agreements for S/R access and ALI

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PSAP in CO will receive the call without a VoIP E9-1-1 Solution
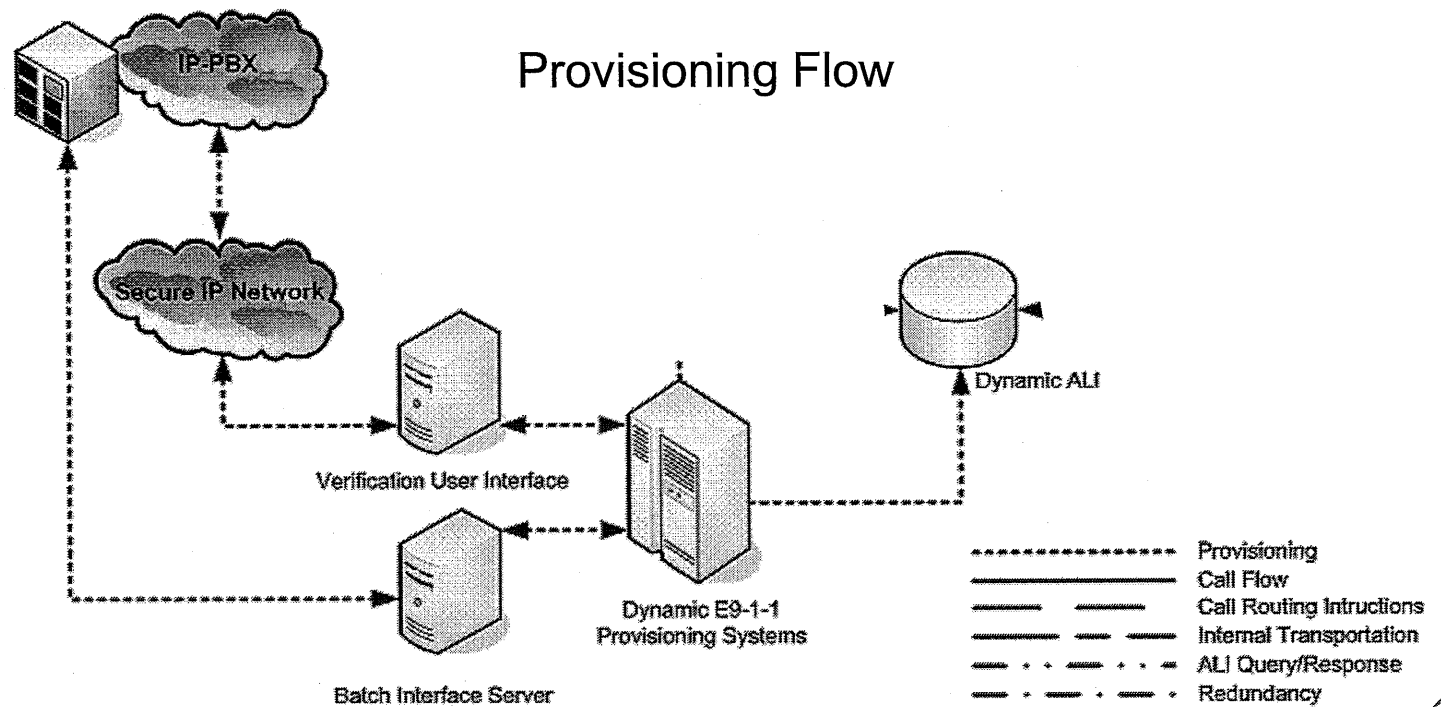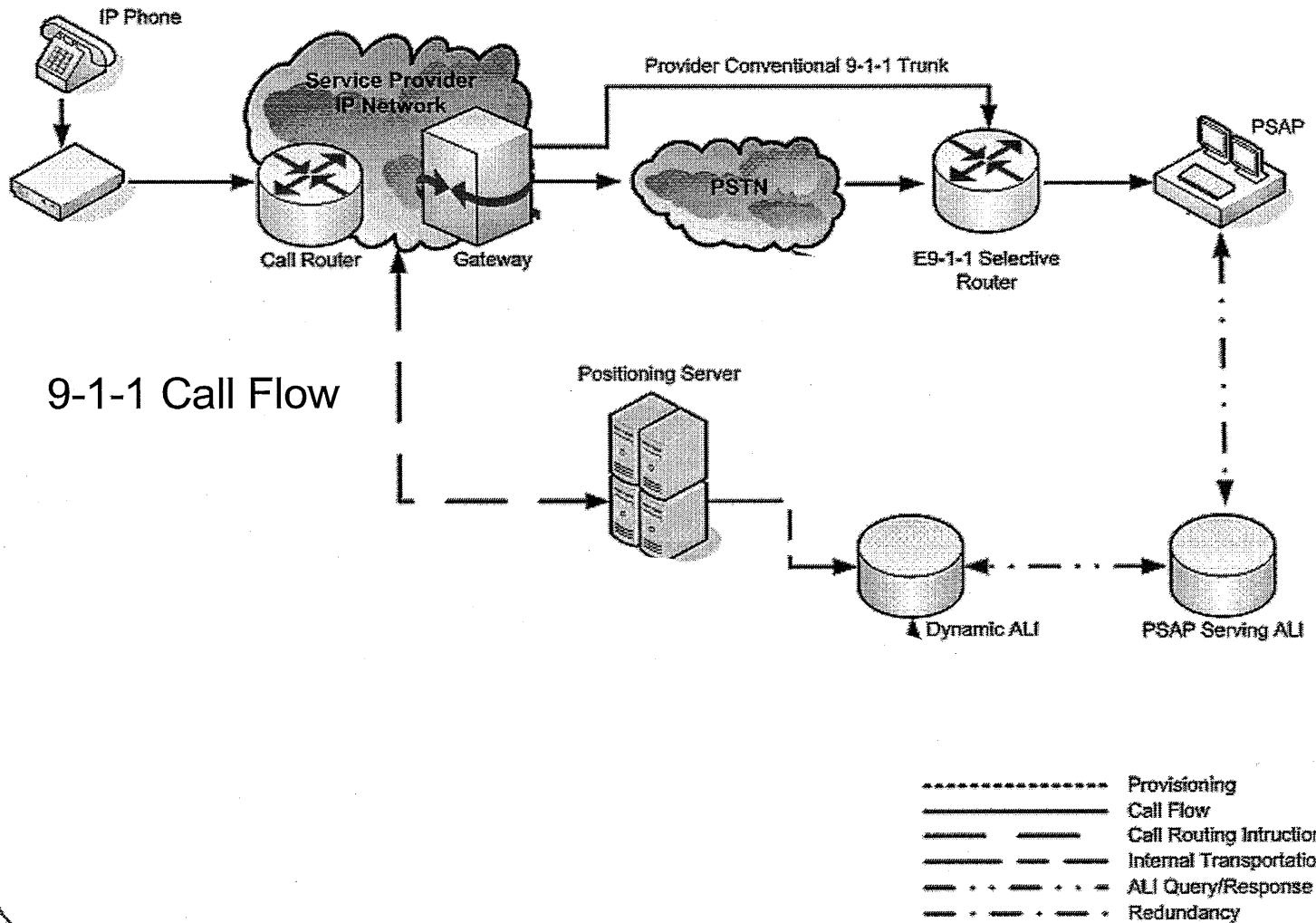
Solutions for VoIP E9-1-1
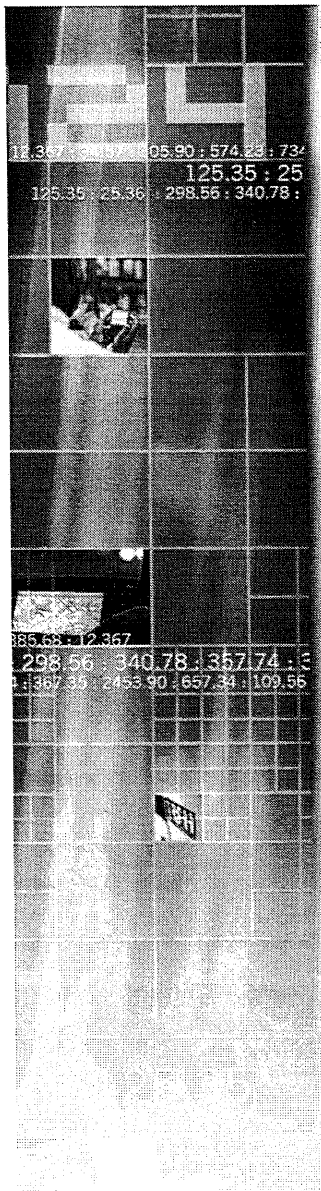
➤ Solutions depend on market offer

- If static user with local telephone number, existing 9-1-1 infrastructure can be used

- If mobile user or non-native telephone number assignment, need a dynamic VoIP solution

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Provisioning Flow

IP PBX

Secure IP Network

Dynamic ALI

Verification User Interface

Batch Interface Server

Dynamic E9-1-1
Provisioning Systems

····················	Provisioning
———————	Call Flow
—— ——	Call Routing Intructions
—— — —	Internal Transportation
■ · · ■ · · · ■	ALI Query/Response
■ · ■ · ■ ·	Redundancy

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VoIP E9-1-1 For Residential & Business Users

IP Phone

Service Provider IP Network

Provider Conventional 9-1-1 Trunk

Call Router

Gateway

PSTN

E9-1-1 Selective Router

PSAP

9-1-1 Call Flow

Positioning Server

Dynamic ALI

PSAP Serving ALI

- •••••••••••••• Provisioning
- ——————— Call Flow
- —— —— —— Call Routing Intructions
- —— — —— Internal Transportation
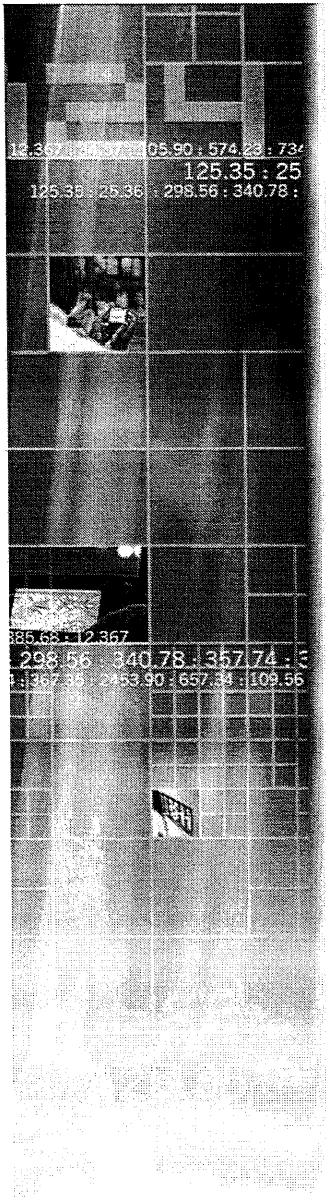- —— · —— · · —— ALI Query/Response
- —— · —— · —— · Redundancy

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VoIP E9-1-1 For Residential & Business Users
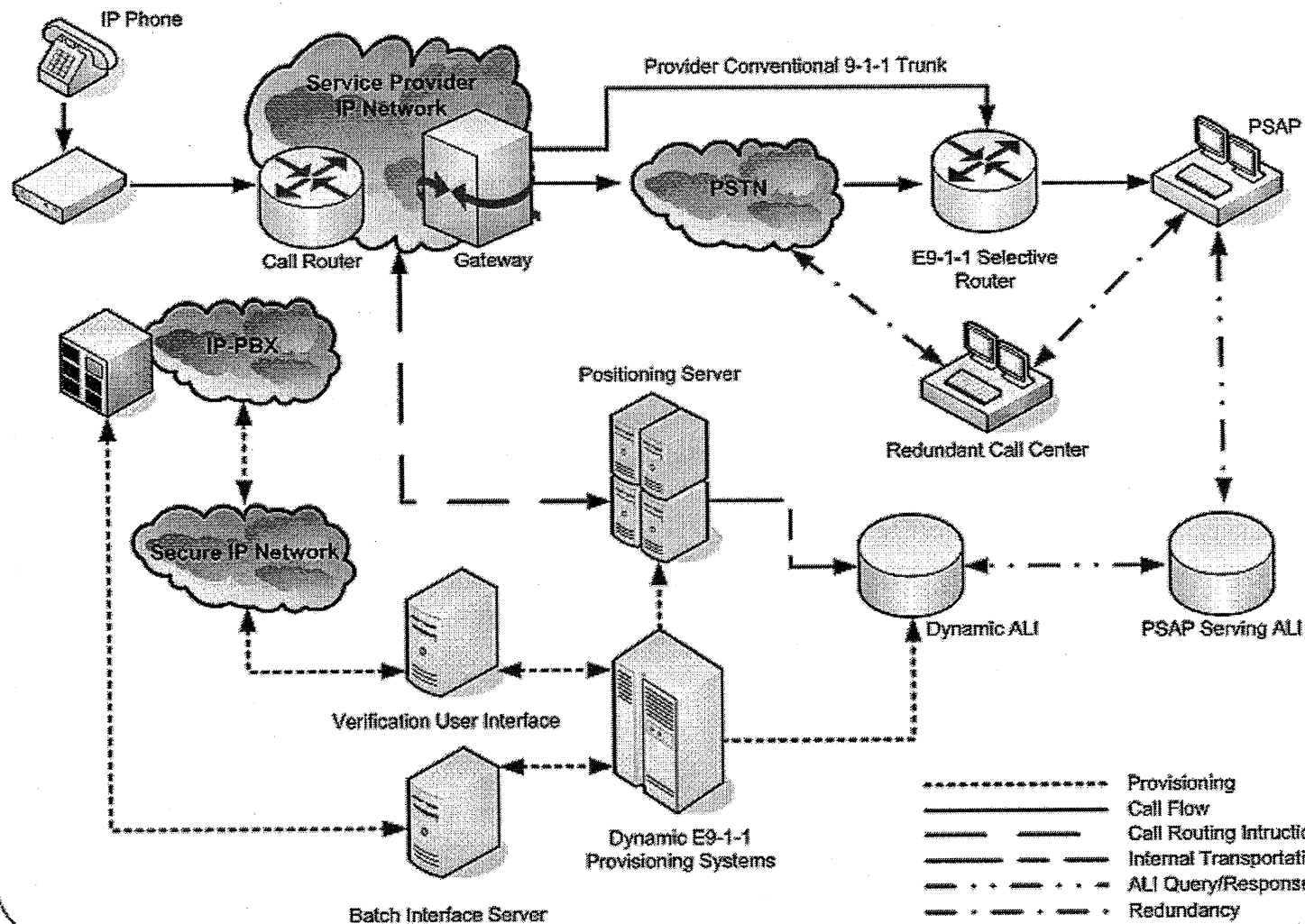
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Solutions for VoIP E9-1-1

Implementation of dynamic VoIP solution requires

- Access to 9-1-1 Selective Routers for "native" call delivery to PSAP

- Steering of ALI (automated location information) request to VoIP Dynamic ALI for customer address information

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Cooperation Enables Full Functionality of VoIP 9-1-1 Products
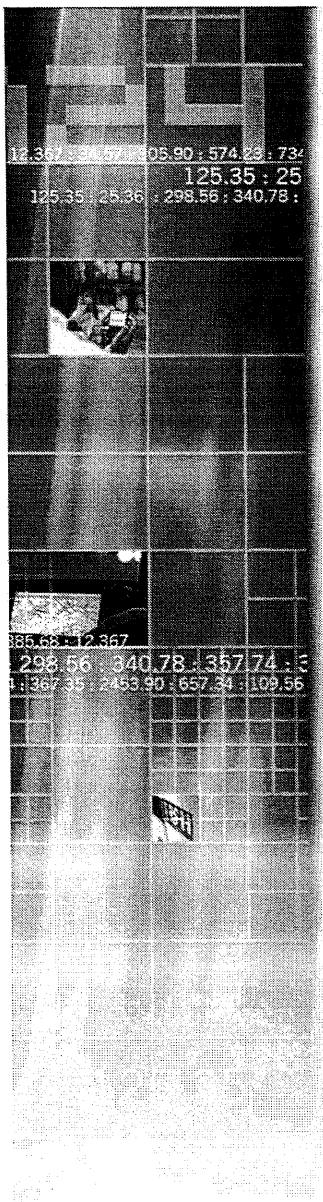
SRDB

SELECTIVE ROUTER

Access to the Selective Router is required to enable native routing through the 9-1-1 Network

ALI ⟷ ALI
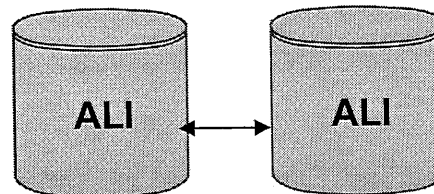
Access to regional ALI's required to enable full address presentation at the PSAP

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Solutions for VoIP E9-1-1: Deployment Status

- V9-1-1 Mobility Service
  - Addresses Consumer and Enterprise markets
  - 7 customers

- States and Municipalities
  - Increasingly involved in solution implementation
  - Deployed VoIP native 9-1-1 delivery for Rhode Island
  - Actively working with Virginia, New York City, and Seattle on native VoIP solutions

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Policy Requirements

- ◥ 911 Network Access
  - Access to the Selective Routers and ALI Steering for VoIP Service Providers; despite recent ILEC movement.
  - Ensure third party concentrators of VoIP traffic are included.
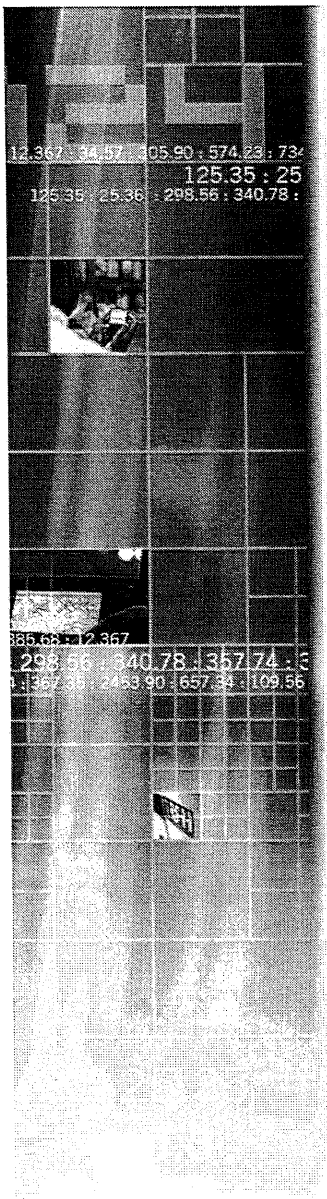- ◥ State 911 Programs
  - Require VoIP providers to comply with 911 policy and service level mandates of each State.
  - Define the term IP Enabled Service Provider exclusively for the purposes of 911 only.
  - Ensure that providers are treated essentially the same within the States as traditional telecommunications carriers.
- ◥ Liability
  - Provide for same liability protection afforded wireless carriers pursuant to 47 U.S.C. §615a.
- ◥ Standards
  - Defer to existing standards organizations for technical recommendations and solutions.

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Questions/Discussion